Physics of the Solid State 2013 vol.55 N3, pages 659-667

Tunneling characteristics of a double-barrier magnetic junction

Useinov N.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The spin-polarized current through a planar double-barrier magnetic tunnel junction has been calculated using the quasi-classical model. The coefficients of electron transmission through the barriers have been calculated in terms of the quantum theory. The dependences of the transmission coefficients, spinpolarized currents, and tunneling magnetoresistance on the applied voltage under resonant conditions have been shown. Under non-resonant conditions, the tunneling magnetoresistance has been compared with the experimental data. © 2013 Pleiades Publishing, Ltd.

http://dx.doi.org/10.1134/S1063783413030281